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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,476	11/13/2003	Wojciech Lazarski	1387-3	8321
23869	7590	05/07/2007		
HOFFMANN & BARON, LLP 6900 JERICHO TURNPIKE SYOSSET, NY 11791			EXAMINER WONG, BLANCHE	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/07/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

8K

<b>Office Action Summary</b>	<b>Application No.</b> 10/712,476	<b>Applicant(s)</b> LAZARSKI ET AL.	
	<b>Examiner</b> Blanche Wong	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 and 6-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>Nov03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: the abbreviation CPE in line 6 needs to be spelled out when used for the first time. Appropriate correction is required.
2. Claim 7 is objected to because of the following informalities: Examiner suggests replacing "form" in line 6 with "from". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. **Claims 5-8** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 5, it is unclear in lines 7-8, how a frame with a specific receiver MAC address is to be transmitted.

With regard to claim 6, it is unclear the reference "previously-reserved" in line 6.

With regard to claim 6, it is unclear whether the output buffer in line 10 is the same as the output buffer in line 4.

With regard to claim 7, it is unclear the reference "previously reserved" in lines 3-4 and line 5.

With regard to claim 7, it is unclear whether "the input buffer" in line 6 is the same as "the previously-reserved input buffer" in lines 3-4 or line 5.

With regard to claim 8, it is unclear who or what are the recipients in line 3.

With regard to claim 8, it is unclear which is "the buffer" in line 5.

With regard to claim 8, it is unclear what is "a counter frame receipts" in line 8.

With regard to claim 8, it is unclear how or what is meant by "determining that the data is received by all recipients when the counter of received frames reaches the counter of informed recipients".

5. There is insufficient antecedent basis for this limitation in the claim.

Claim 5, line 6, "the table data".

Claim 5, lines 6-7, "the interface identifier".

Claim 6, line 8, "the reservation".

Claim 6, line 8, "the input buffer".

Claim 6, line 9, "all recipients".

Claim 6, line 10, "the LLC bridge".

Claim 7, line 3, "the incoming data".

Claim 7, line 3, "the LLC bridge".

Claim 7, line 5, "the reservation".

Claim 7, line 6, "all recipients".

Claim 8, line 3, "the input buffer".

Claim 8, lines 10-11, "the counter of received frames".

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claim 5** is rejected under 35 U.S.C. 102(e) as being anticipated by Rakib (U.S. Pat No. 7,007,296).

With regard to claim 5, Rakib discloses

providing the multiplexer of interfaces (**switch 71 in Fig. 1, col. 7, line 40**) with a table of interfaces (**routing table**) comprising data enabling identification of the interfaces (**MAC and IP addresses**); and

using the table data (**routing table**) by an identifying function to determine the interface identifier (**MAC and IP addresses**, to which a frame with a specific receiver MAC address (**MAC addresses**) is to be transmitted (**routing**) (**The shared cable modem, in the preferred embodiment, has routing tables which list either all the MAC addresses of the switch ports or peripherals on the LANs of subscribers or all the IP addresses of subscribers or peripherals on the LANs it serves or both, col. 4, lines 39-41**).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1 and 2** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (U.S. Pat No. 6,618,386) in view of Rakib.

With regard to claim 1, Liu discloses

a MAC layer controller (**MAC mgmt 430 in Fig. 4, col. 7, line 62**);

a LLC bridge (**Cable Modem Driver 420, HAL 415, Cable Modem 360 in Fig. 2, col. 8, lines 38-40**) interacting with the MAC layer controller (**see MAC mgmt 430 connected to Cable Modem Driver 420, HAL 415, Cable Modem 360 in Fig. 2**); and

an IP stack (**Cable Modem Protocol Stack 435 in Fig. 2, col. 8, line 15**) processing IP frames (**OSI model, col. 7, line 59; DOCSIS 1.0 Standard**) and interacting with the LLC bridge (**see Cable Modem Driver 420, HAL 415, Cable Modem 360 connected to Cable Modem Protocol Stack 435 in Fig. 2**).

Liu further discloses a network interface 350. However, Liu fails to explicit show that the network interface is CPE interfaces, each interface linked to one device of Customer Premises Equipment; and a multiplexer of CPE interfaces linked to the CPE interfaces

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wherein the multiplexer has a table of the CPE interfaces, and a table with MAC addresses.

Rakib discloses

CPE interfaces (**BALUNs in Fig. 1**), each interface linked to one device of Customer Premises Equipment (**LAN segments 72,74,76,78,80,82,84,87 in Fig. 1, col. 8, lines 16-17**); and

a multiplexer of CPE interfaces (**switch 71 in Fig. 1, col. 7, line 40**) linked to the CPE interfaces (**BALUNs with the switch in Fig. 1**) wherein the multiplexer has

a table of the CPE interfaces (**routing tables in switch 71**)(**routing tables which list all the IP addresses of subscribers or peripherals on the LANs it serves or both, col. 4, lines 39-41**), and

a table with MAC addresses of devices (**routing tables in switch 71**) (**routing tables which list all the MAC addresses of the switch ports or peripherals on the LANs of subscribers, col. 4, lines 39-41**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include CPE interfaces, each interface linked to one device of Customer Premises Equipment; and a multiplexer of CPE interfaces linked to the CPE interfaces wherein the multiplexer has a table of the CPE interfaces, and a table with MAC addresses, as taught in Rakib in Liu. The suggestion/motivation for doing so would have been to provide for a single shared cable modem, col. 1, line 29. Therefore, it would have been obvious to combine Rakib with Liu for the benefit of CPE interfaces,

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each interface linked to one device of Customer Premises Equipment; and a multiplexer of CPE interfaces linked to the CPE interfaces wherein the multiplexer has a table of the CPE interfaces, and a table with MAC addresses, to obtain the invention as specified in claim 1.

With regard to claim 2, the combination of Liu and Rakib discloses the cable modem according to claim 1.

Rakib further discloses an interface of a physical CPE (**switch 71 in Fig. 1, col. 7, line 40**) and controls flow of data between the multiplexer (**switch 71 in Fig. 1, col. 7, line 40**) and a CPE driver (**BALUNs with the switch in Fig. 1**).

10. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu and Rakib as applied to claim 1 above, and further in view of Nixon et al. (U.S. Pat No. 6,195,591).

With regard to claim 4, the combination of Liu and Rakib discloses the cable modem according to claim 1. However, the combination fails to explicitly show a table comprises a name of the device of the CPE, an ID number of the device of the CPE and a MAC address of the device of the CPE.

Nixon disclose a table (**a device table**) comprises a name of the device of the CPE (**a device name**), an ID number of the device of the CPE (**a device ID**) and a MAC address of the device of the CPE (**a controller MAC address**) (**a device table**



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includes a device ID, a device name, ... a controller MAC address ..., col. 13, lines 1-6).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a table comprises a name of the device of the CPE, an ID number of the device of the CPE and a MAC address of the device of the CPE as taught in Nixon, in Liu and Rakib. The suggestion/motivation of doing so would have been to provide for a device table that contains information regarding a device in the process control environment. Nixon, col. 12, lines 65-67. Therefore, it would have been obvious to combine Nixon with Liu and Rakib for the benefit of a table comprises a name of the device of the CPE, an ID number of the device of the CPE and a MAC address of the device of the CPE, to obtain the invention as specified in claim 4.

### ***Allowable Subject Matter***

11. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 6-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-

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3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW

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April 20, 2007



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